

REMARKS

The amendment to the claims is submitted herewith in a form in accordance with proposed rule changes which are promulgated by the Patent and Trademark Office, which new rules are expected to become mandatory in July, 2003.

The last Office Action in the above-identified application and the references cited by the Examiner have been carefully considered. The claims have been amended in a sincere effort to define more clearly and more specifically features of applicants' invention which distinguish over the art of record.

Method Claims 35-47 have not been elected for prosecution, and these claims were withdrawn from further consideration by the Examiner. Claims 35-47 have been cancelled herein without prejudice to incorporating the same in a divisional application. Applicants affirm the provisional election for further prosecution of Claims 1-34, 48 and 49.

Claims 2, 18 and 19 have been rejected under 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states in paragraph 8 on page 3 of the Office Action that the reference to the substrate being less than 0.005 or 0.006 ohms/cm is not understood. The Examiner questions whether this is an attempt to define the resistivity of the substrate.

Applicants respectfully submit that it is – they are defining the resistivity of the substrate. Applicants believe that volume resistivity of a three dimensional object, such as the semiconductor substrate, is defined by the resistance per distance through the object (in this case, the depth of the semiconductor substrate). For example, a substrate which is one centimeter in thickness would have a resistivity, measured through its thickness, of 0.005 ohms, in accordance with the claims. If the substrate were two centimeters in thickness, the resistivity of the substrate would be 0.010 ohms. Accordingly, it is respectfully urged that the "ohms/cm" designation is proper when defining the incremental resistance through an object. A copy of a "Technical Guide – Glossary of Terms" found on the website of the Industrial Electric Wire and Cable Inc., which states that volume resistivity is expressed in ohms/centimeter, is provided herewith for the convenience of the Examiner. The undersigned attorney has also seen volume resistivity expressed as "ohms – centimeter".

However, if the Examiner would prefer a different designation for resistance, Applicants would be happy to make whatever changes are necessary to satisfy the Examiner's concerns, and in this regard, it is respectfully requested that the Examiner contact the undersigned attorney at the telephone number given below so that the undersigned attorney can authorize the Examiner to make whatever changes he feels in this regard are required.

Claims 1-3 and 25-27 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,925,898 (Spath) and 5,216,805 (Hallenbeck et al.). Furthermore, Claims 4-9, 22, 31 and 34 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the Spath patent in view of the Hallenbeck et al. patent, and further in view of U.S. Patent No. 6,326, 645 (Kadota). Additionally, Claims 32 and 33 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the Spath patent in view of the Hallenbeck et al. patent, and further in view of U.S. Patent No. 6,084,250 (Justel et al.). Finally, Claims 28 and 29 have been rejected under 35 U.S.C. §103(a) as being unpatentable over the Spath patent in view of the Hallenbeck et al. patent and further in view of U.S. Patent No. 6,509,579 (Takeya et al.).

The allowance of Claims 48 and 49, and the probable allowance of Claims 10-21, 23, 24 and 30, are acknowledged and gratefully appreciated. Claims 10-21, 23, 24 and 30 have only been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

In response to the Office Action, the following changes to the claims have been made:

Allowable Claim 10 has been amended and placed in independent form to include all of the limitations of Claim 1 from which it depended. Accordingly, it is respectfully urged that Claim 10 is now in proper form for allowance.

Claims 11 and 12 have not been amended, as they depend directly from Claim 10, which is now in independent form. Accordingly, it is respectfully urged that Claims 11 and 12 are in proper form for allowance.

Allowable Claim 13 has been amended and placed in independent form to include all of the limitations of Claim 1 from which it depended. Accordingly, it is respectfully urged that Claim 13 is now in proper form for allowance.

Claims 14-17 depend directly from Claim 13, which is now in independent form, and Claims 18-20 depend directly from Claim 17, which depends from amended Claim 13. Accordingly, it is respectfully urged that Claims 14-20 are in proper form for allowance.

Claim 21 depends from Claim 20 and, thus, indirectly depends from amended Claim 13, now placed in independent form. Accordingly, it is respectfully urged that Claim 21 is in proper form for allowance.

Turning now to the earlier claims which were rejected in view of the prior art, Claim 1 has been cancelled. Claims 2-4, which had depended from Claim 1, have now been amended so that they depend from allowable Claim 13, which has been amended and placed in independent form. Accordingly, it is respectfully urged that Claims 2-4 are now in proper form for allowance.

Claims 5 and 6 depend from Claim 4, which has been amended to depend from allowable Claim 13. Accordingly, it is respectfully urged that Claims 5 and 6 are in proper form for allowance.

Claim 7, which had depended from Claim 1, has now been amended so that it depends from allowable Claim 13, which is now in independent form. Accordingly, it is respectfully urged that Claim 7 is now in proper form for allowance.

Claims 8 and 9 depend directly from Claim 7, which has been amended to depend from allowable Claim 13. Accordingly, it is respectfully urged that Claims 8 and 9 are in proper form for allowance.

Turning now to Claim 22, this claim depends from Claim 7, which has now been amended to depend from allowable Claim 13. Accordingly, it is respectfully urged that Claim 22 is in proper form for allowance.

Allowable Claim 23 has now been rewritten in independent form to include all of the limitations of original Claim 7 and all of the limitations of original Claim 1, on which Claim 7 depended. Accordingly, it is respectfully urged that Claim 23, now in independent form, is in proper form for allowance.

Allowable Claim 24 depends directly from allowable Claim 23, now amended and placed in independent form. Accordingly, it is respectfully urged that Claim 24 is in proper form for allowance.

Each of Claims 25-29 had depended directly on rejected Claim 1. These claims have now been amended so that they depend directly on allowable Claim 13, which is now in independent form. Accordingly, it is respectfully urged that Claims 25-29 are now in proper form for allowance.

Allowable Claim 30 has been amended and placed in independent form to include all of the limitations of Claim 1 from which it depended. Accordingly, it is respectfully urged that Claim 30 is now in proper form for allowance.

Claims 31 and 32 had depended directly from rejected base Claim 1. These claims have now been amended so that they depend directly from allowable Claim 13, which has been amended and placed in independent form. Accordingly, it is respectfully urged that Claims 31 and 32 are now in proper form for allowance.

Claim 33 depends directly from Claim 32, which now depends from allowable Claim 13 in independent form. Accordingly, it is respectfully urged that Claim 33 is in proper form for allowance.

Claim 34 had depended from rejected Claim 1, but has now been amended to depend directly from allowable Claim 13, now in independent form. Accordingly, it is respectfully urged that amended Claim 34 is in proper form for allowance.

As mentioned previously, method Claims 35-47 have been cancelled without prejudice to incorporating the same in a divisional application.

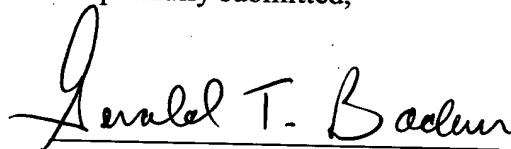
Original Claims 48 and 49 have been allowed and are, thus, in proper form. Accordingly, it is respectfully urged that Claims 2-34, 48 and 49 are in proper form for allowance and such action is respectfully solicited.

The Examiner's comments in paragraph 27 on page 5 of the Office Action concerning the informal drawings which are faint, and the error in Figure 4b are noted and appreciated. Submitted herewith on a separate sheet is a Request for Approval of Drawing Changes, along with a marked-up copy of the drawings, in which the lines of the drawings have been darkened, and Figure 4b has been corrected. It is respectfully requested that the Examiner approve the changes to the drawings and, upon such approval, the formal drawings will be prepared and submitted. A duplicate copy of the marked-up drawings for the Examiner's consideration, as well as a duplicate copy of the marked-up drawings submitted separately with the Request, are submitted herewith.

Also submitted herewith is a Petition for a Three-Month Extension of Time.

In view of the foregoing amendments and remarks, entry and favorable consideration of the amendments to Claims 2-4, 7, 10, 13, 23, 25-32 and 34, reconsideration of unamended Claims 5, 6, 8, 9, 11, 12, 14-22, 24 and 33, and allowance of the application with Claims 2-34, 48 and 49 are respectfully solicited. If the Examiner has any questions, it is respectfully requested that he contact the undersigned attorney at the telephone number given below.

Respectfully submitted,



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